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No. IX.

SAFETY SCALE LEVER.

The SILVER ISIS MEDAL was presented to Mr. JAMES HOPKINS, Globe Brewery, King's Row, Horselydown, for his Safety Scale Lever; a Model of which has been placed in the Society's Repository.

THE scales used at the wharfs and docks are usually employed to weigh heavy articles, and frequently many of the same kind one after another. The difference in weight between such is usually but small; and the practice accordingly is, to leave the weights in one scale while the other is unloading. But as, if the instrument was left to itself, the weight-scale would preponderate while the other was unloading, and thus raise the articles in the latter to an inconvenient height, it is the practice to place the short arm of a suspended lever under that arm of the beam to which the weight-scale is attached, and then to draw down the long arm of the lever and hook it into a link of one of the chains by which the scale is suspended. If from inadvertence or accident the hook should give way, the loaded scale would come violently on the floor, and the long end of the suspending lever, rising at the same time, would give a serious and dangerous blow to any person standing within its range.

To avoid the occurrence of such accidents, Mr. Hopkins has modified the suspending lever in the following way: The end of the long arm near the fulcrum is notched, and a click is adjusted so as to fall in some one of these

notches, according to the angular position of the lever, and retain it there. An apparatus also is attached to the arm, by means of which the man stationed at the end of the lever may raise the click, when required, out of the notch, and thus disconnect the purchase-lever from the scale-beam. This apparatus Mr. Hopkins stated to have been in use at the West India Docks, and at Fresh Wharf, London Bridge. The Secretary was directed to make inquiry at both the above places, which produced the following letter, addressed by Mr. Knight to the Secretary of the West India Dock Company :—

West India Docks,
SIR,
May 18, 1838.

I BEG leave to report, that Mr. Hopkins's Lever is well adapted to the purpose it is intended, and is a considerable improvement upon those previously used, as it combines greater facility in working, with additional safety to the men working it; and although from the few instances of accident that have occurred in working the scale levers, and the possibility of accident in using Mr. Hopkins's, it may not be expedient to go to an expense for a new outfit in lieu of the old ones, more particularly as no absolute economy of labour could be calculated upon, and there are at present a large surplus stock of levers on hand; yet the improvement is such, that, having reference to its applicability to an extensive portion of the work in this establishment, the parties by whom it has been effected appear deserving of favourable consideration.

I am, Sir, &c. &c.

HENRY LONGLANDS, Esq.
Secretary.

S. KNIGHT.

With respect to the levers in use at Fresh Wharf, the Secretary stated, that having called there, according to the direction of the Committee, he saw the overseer of that wharf, who shewed him one of Mr. Hopkins's safe levers ; and informed him that it is in constant use there when unloading butts of currants and other heavy goods ; that it fully answers its purpose, and is better than the usual mode of securing the scale-beam.

The two following certificates in favour of the candidate's invention were received from Mr. Mark Brown, and Mr. W. J. Hall, of the Custom House :—

Mark Brown's Wharf,

SIR,

March 1839.

MR. JAMES HOPKINS has requested me to forward you a testimonial respecting his Single-purchase Safety Levers.

This document hereby certifies, that having purchased two of Mr. James Hopkins's levers, find them answer exceedingly well in all respects ; that the most inexperienced man can use them with perfect safety ; and think, that if put into general practice would supersede all others. Therefore feel great pleasure in recommending them to your notice.

I am, Sir, &c. &c.

A. AIKIN, Esq.

Secretary, &c. &c.

MARK BROWN.

Custom House and Wool Quays,

SIR,

March 13, 1839.

THE Single-purchase Lever which we have had at work about six months, we find to answer extremely well, and

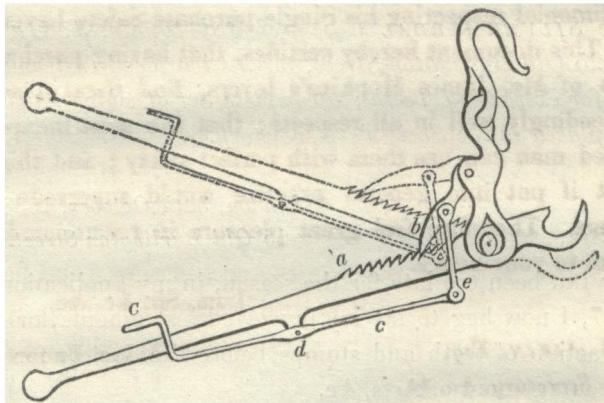
strongly recommend it for general purposes, more particularly for heavy goods.

I am, Sir, &c. &c.

Mr. JAMES HOPKINS.

W. J. HALL.

The annexed figure represents the lever. *a* are the notches cut in the upper part of the suspending-lever; *b* is the click; *c c* is the safe-lever moving on the fulcrum *d*; *e* is a loose link which connects the click with the safe-lever. The dotted lines represent its position when placed beneath the arm of the weight-scale, but not yet brought into action. While drawing down to the



other position, the click falls successively into one notch after another, and, by the mere pressure of the hand at the end of the lever, will at any time remain in its position, completely counterbalancing the scale in which the weights are while the goods are discharging and others are put into the scale. As soon as this is performed, the

man at the lever draws down the end a little with one hand, and with the other, placed on the handle of *c*, depresses that end, and therefore raises the other, and with it the loose link *e*: this latter raises the click *b* out of its notch, and allows the man to put the lever in the dotted position, in which it is disengaged from the scale-beam, and the weights are free to act.

No. X.

INSTRUMENTS FOR EXTRACTING TEETH.

*The SILVER MEDAL was presented to Mr. J. GRAY,
25 Old Burlington Street, for his improved Instruments
for extracting Teeth; a complete Set of which has been
placed in the Society's Repository.*

London, 30th October, 1838,
SIR,
25 Old Burlington Street.

HAVING been too late for the season, in my application of 1837, I now beg to lay my improved instruments for the extraction of teeth and stumps before the Society for the Encouragement of Arts, &c.

These instruments are, with the greatest deference, submitted to the Society of Arts, and to the medical profession generally; and should they be found to possess any merit, or be the means of suggesting improvement in the painful operation of extracting teeth, I am quite aware that the Society and the medical world will fully appreciate the slightest advance, nor consider the smallest